

PADNELL GRANGE
ECOLOGICAL APPRAISAL

Prepared for Bellway Homes

by

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1 INTRODUCTION

- 1.1 This report describes an Ecological Appraisal, including a Phase 1 Bat Scoping survey and Badger survey, of approximately 2.7ha of land off Padnell Road, Cowplain hereinafter referred to as 'the site'. The centre of the site is located by National Grid Reference SU 698 110. The study was commissioned by Bellway Homes in June 2017.
- 1.2 The site is located on the eastern edge of the settlement of Cowplain in southern Hampshire and forms the grounds of Padnell Grange which comprises a number of buildings in residential and commercial use together with associated hardstanding and formally landscape grounds.
- 1.3 Although the site forms the focus of the survey, a 1.8ha area of woodland to the north of the site falling within the same land ownership was also included in the Phase 1 Habitat Survey. This area is hereinafter referred to as the 'wider survey area'.
- 1.4 The site and wider survey area are bordered to the north, south and west by residential development and to the east by Waterlooville Golf Course. The wider area generally comprises residential development, grassland fields and areas of woodland. The A3(M) lies approximately 450m to the east of the site. The location and boundary of the site and wider survey area are shown on the plan in *Appendix B*.
- 1.5 The site is to be the subject of a planning application for residential development, with associated car parking and landscaping.
- 1.6 The aims of this study are:
- i. To assess the likely nature conservation importance of habitats within the site;
 - ii. To assess the likely presence of protected species and Habitats and Species of Principal Importance identified under Section 41 of the 2006 NERC Act;
 - iii. To identify any potential constraints to development due to the above;
 - iv. To identify requirements for any additional ecological surveys in support of a planning application; and
 - v. To identify measures to avoid and mitigate potential effects of development on identified features of ecological interest.

2 METHODOLOGY

2.1 Desk Study

- 2.1.1 Existing ecological and nature conservation data relevant to the site was collated from various sources including the 'Multi Agency Geographic Information for the Countryside' (MAGIC) online database (<http://magic.defra.gov.uk>) and Hampshire Biodiversity

Information Centre (HBIC). Protected species records were obtained for an area of approximately 2km around the site and a check for designated sites was extended to an area of up to 10km from the site boundary. The findings of the desk study are summarised in *Section 3* below and the full results are given in *Appendix A*.

2.2 Field Survey

2.2.1 The field survey comprised an extended Phase 1 habitat survey, a Phase 1 bat scoping survey and a Badger survey conducted by Julie Watson MCIEEM on 26th June and 3rd July 2017. A total of twelve hours was spent carrying out the field survey.

Extended Phase 1 Habitat Survey

2.2.2 The Phase 1 habitat survey involved walking over the site and wider survey area, mapping the main habitat types and compiling detailed 'target notes' (JNCC, 2010). Target notes record habitat features and a list of vascular plant species noted, together with a qualitative assessment of relative abundance. An initial assessment was also made of the potential for the site to support protected and notable species based on the character of the habitats present.

Phase 1 bat scoping survey

2.2.3 All buildings and trees within the site were assessed for their potential to support roosting and / or hibernating bats and classified accordingly.

Phase 1 building survey

2.2.4 All buildings within the site were inspected externally from ground level using binoculars and a powerful torch to identify and investigate any potential entry and exit points such as missing roof tiles, loose fascias and lifted lead flashing, and to look for evidence of entry / exit in the form of staining, discolouration and / or scratch marks.

2.2.5 Internally, buildings were searched exhaustively where possible, to look for evidence of current or former occupation by bats. A powerful torch was used to investigate any accessible cavities, crevices and recesses in each building.

2.2.6 In view of the findings of the external inspections, the potential of the buildings to support roosting bats ('confirmed roost', 'high', 'moderate', 'low' or 'negligible') was assessed in accordance with current best practice guidelines (BCT, 2016). Assessment of bat roosting potential requires consideration of a number of criteria, including the design and construction of the building or structure, the size and location of potential features and access points, the position of the building or structure, aspect, geographical location, surrounding land use and adjacent landscape linkages.

Phase 1 tree survey

- 2.2.7 All trees within the site were inspected from ground-level, with the aid of binoculars and a powerful torch, to identify potential features suitable for use by roosting and / or hibernating bats. Potential features include splits, cracks and cavities, peeling bark, woodpecker holes, broken branches and a covering of lvy where this is of a sufficient age to provide a suitable microclimate between the tree and lvy stem(s).
- 2.2.8 In accordance with current best practice guidelines (BCT, 2016), trees were placed into one of the following five categories based on the nature, size, location and quality of features present in each tree and surrounding habitat:
- Negligible suitability – Trees with no or negligible features for roosting bats;
 - Low suitability – Trees of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential;
 - Moderate suitability – Trees with one or more potential roost sites that could be used by bats but are unlikely to support roost types of high conservation status;
 - High suitability – Trees with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time; or
 - Known or confirmed bat roost.
- 2.2.9 The results of the Phase 1 bat scoping survey determine the need for further surveys in relation to roosting bats.

Badger survey

- 2.2.10 The Badger survey comprised a systematic search of the site and, where accessible, adjacent land for Badger setts and evidence of Badger activity. For each confirmed Badger sett a recording card was completed detailing the type of sett, number of entrances and level of activity (from disused to active).

Other species

- 2.2.11 Observations on the presence, or potential presence, of other protected species were recorded as incidental information to the extended Phase 1 habitat survey however this information should not be relied on as a comprehensive assessment of the presence or otherwise of all protected species on the site. This is because there is a wide range of protected species, many of which can occur on one site and most require specialist expertise to locate them and/ or season-critical survey techniques to confirm their presence, and this is outside the scope of the present report.

2.3 Evaluation Criteria

2.3.1 The evaluation of the site, and the habitats within it, is based on the results of the field surveys described above, any designations pertaining to the site, and existing ecological information collected during the desk study.

2.3.2 Each ecological resource (site, habitat, species or feature) was assigned a value at the following geographic scales (CIEEM, 2016):

- International
- National (England/ Scotland/ Wales/ Northern Ireland)
- Regional
- County / Metropolitan
- District / Borough
- Local/ Parish
- within immediate zone of influence only (Site / Negligible)

2.3.3 Assigning value is relatively straightforward in the case of designated sites, and undesignated sites meeting designation criteria. However, in most cases evaluation of ecological resources is not straightforward and requires a degree of knowledge, training, experience and professional judgement (Usher, 1986; Spellerberg, 1992). Evaluation of an ecological resource was based on a number of criteria (Ratcliffe, 1977; CIEEM 2016). These are summarised in *Appendix E*.

2.3.4 The potential for protected species and Habitats and Species of Principal Importance identified under Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act to be present within the site has been assessed on the basis of the habitats and features present and the results of the desk study.

2.4 Limitations

2.4.1 During the Badger survey, some areas of land outside the site, but within 30m of the boundary, could not be accessed or viewed adequately to confirm the absence of Badger setts. These areas included parts of the adjacent private residential properties and golf course to the east, south and west that could not be viewed from within the site. It is considered unlikely however that these areas contained active Badger setts at the time of survey due to the nature of adjacent land uses and/ or no signs of Badger using these areas were recorded during the survey.

- 2.4.2 In summary, it is considered that the field surveys and desk study were not subject to any significant constraints and the studies conducted are adequate to make a robust assessment of the site's likely nature conservation significance and to form the basis of the recommendations provided in *Sections 7 and 8* of this report.

3 DESK STUDY

3.1 Introduction

- 3.1.1 The following section summarises the findings of the desk study. The extent of designated areas in the vicinity of the site are illustrated on the plans in *Appendix A* and are described below. The findings of the field surveys and an assessment of the potential of the site to support protected species and Species of Principal Importance are given in *Sections 4 and 5* respectively.

3.2 Designated Sites

- 3.2.1 No statutory or non-statutory nature conservation designations are located within the site. One non-statutory site namely Waterlooville Golf Course SINC lies adjacent to the eastern boundary. This is confirmed by information from the MAGIC online database and Hampshire Biodiversity Information Centre (HBIC).

Statutory designated areas

Internationally designated areas

- 3.2.2 Eight internationally designated areas are located within 10km of the site. These are:
- Chichester and Langstone Harbours Ramsar and Special Protection Area (SPA), located approximately 5.6km to the south of the site. This SPA/ Ramsar Site comprises estuarine habitats including extensive sand and mud flats designated on the basis of supporting internationally important breeding populations of Little Tern, Common Tern and Sandwich Tern; wintering populations of Bar-tailed Godwit, Pintail, Shoveler, Teal, Wigeon, Turnstone, Brent Goose, Sanderling, Dunlin, Ringed Plover, Red-breasted Merganser, Curlew, Grey Plover, Shelduck and Redshank; and for its wintering assemblage of over 20,000 birds. The component SSSIs of the SPA; Chichester Harbour SSSI and the Langstone Harbour SSSI are large, sheltered estuarine basins comprising extensive sand- and mud-flats exposed at low tide (together totalling approximately 5810 ha land). The two harbours are joined by a stretch of water that separates Hayling Island from the mainland. The mud-flats are rich in invertebrates and also support extensive beds of algae, especially *Enteromorpha* species, and eelgrasses *Zostera* spp. The basin contains a wide range of coastal habitats supporting important plant and animal communities.
 - Solent and Isle of Wight Lagoon SAC, located 5.9 km south-west of the site. This site, which is encompassed within Langstone Harbour (SPA, Ramsar and SSSI – see

above), is considered to be one of the best areas of coastal lagoons in the United Kingdom and supports large populations of three notable species including the nationally rare Foxtail Stonewort *Lamprothamnium papulosum*, the nationally scarce Lagoon Sand Shrimp *Gammarus insensibilis*, and the nationally scarce Starlet Sea Anemone *Nematostella vectensis*.

- Butser Hill SAC, located 7.1 km north of the site. This SAC is designated for its semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) and for its Yew *Taxus baccata* woodland habitat, both of which are considered to be some of the best in the United Kingdom.
- Portsmouth Harbour SPA and Ramsar site, located approximately 8 km south-west of the site. This SPA/ Ramsar Site is designated for supporting internationally significant populations of waterbirds and intertidal mud flats with extensive beds of eelgrass which support grazing Dark-Bellied Brent Geese. The site also includes a number of salt marshes and saline lagoons, hosting nationally important species.
- Solent Maritime Special Area of Conservation (SAC) forming part of Chichester and Langstone Harbours Ramsar and SPA, located approximately 9 km to the south-east of the site. The site is designated for the estuary, salt meadow and *Spartina* sward habitats present.

Nationally designated areas

- 3.2.3 No National Nature Reserves (NNRs) are located within 5km of the site.
- 3.2.4 One nationally designated area is located within 5km of the site, namely Catherington Down Site of Special Scientific Interest (SSSI). The SSSI is located approximately 3km north of the site and is designated on the basis of its chalk grassland and Oak and old Hazel woodland, which are representative of rare and rich habitat now confined to a relatively small number of localities in Hampshire.
- 3.2.5 The south eastern corner of the site falls within the 5.6km Impact Risk Zone (IRZ) for the Chichester and Langstone Harbour SPA (and associated SSSIs and SAC), as identified from the MAGIC online database. IRZs are used by Natural England to identify development activities in the vicinity of SSSIs, Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) which in the absence of avoidance and mitigation measures may adversely affect designated features, thereby requiring planning authorities to consult with Natural England where potentially damaging activities are proposed. The IRZ in which the southern part of the site falls includes '*Any residential developments with a total net gain in residential units*' as a development type with potential to adversely impact the abovementioned SSSI, SAC, SPA and Ramsar Site, and as such, the planning authority would be expected to consult Natural England with regard to development of the

site. Potential effects of development within the site on designated areas are considered further in *Section 8* below.

3.2.6 Three Local Nature Reserves (LNRs) are located within 2km of the site, including:

- Hazleton Common LNR, located approximately 430m to the north-east of the site. This LNR consists of lowland heathland, ancient woodland copse and ponds with a Great Crested Newt population.
- Dell Piece West LNR, located approximately 1.3km north of the site. This LNR consists of open grassland and mire, with fragments of woodland.
- Yeoll's Copse LNR, located approximately 1.8km north-west of the site. This LNR consists of semi-natural ancient woodland.

LNRs are designated for education and public enjoyment of the habitats that they support.

Non-statutory designated areas

3.2.7 The nearest non-statutory designated area is located adjacent to the eastern site boundary. This is the Waterlooville Golf Course Site of Nature Conservation Importance (SNCI) designated for its areas of ancient semi-natural woodland, unimproved neutral grassland and heathland vegetation.

3.2.8 In addition to the above, twenty areas of woodland listed on Natural England's Inventory of Ancient Woodland are located within 2km of the site. The closest of these to the site is an area of ancient and semi-natural woodland located approximately 450m to the south-east within the Waterlooville Golf Course SNCI (see above).

3.3 Biodiversity Action Plan (BAP) and 2006 NERC Act Habitats and Species of Principal Importance

3.3.1 The UK Biodiversity Action Plan (BRIG, 2011) lists species and habitats which have undergone significant declines in recent years and for which conservation is a priority in order to preserve biodiversity in the UK. The BAPs provide a list of actions to be implemented to halt or reverse these declines.

3.3.2 These habitats and species are identified as Habitats and Species of Principal Importance for the conservation of biological diversity in England under Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act. Section 40 of the Act, the 2012 National Planning Policy Framework (NPPF) and underpinning guidance (ODPM, 2005) require that these habitats and species are a material consideration in the planning process.

3.3.3 The Hampshire Biodiversity Action Plan published in 1998 includes BAPs for habitats and species considered to be of county biodiversity importance (Hampshire Biodiversity Partnership, 2014). The Hampshire Biodiversity Partnership subsequently published; 'The State of Hampshire's Biodiversity' report in 2006, which addressed the changes, losses and gains for wildlife over 10 years and the current major influences on Hampshire's biodiversity. Priority habitats listed for Hampshire include woodland (including broadleaved and coniferous); grassland (such as small areas of unimproved grasslands including acid grassland, chalk downland, neutral species-rich hay meadows, and fen meadow); and urban and roadside habitats (including buildings, gardens, ponds and road verges).

3.3.4 The Hampshire BAP also lists 493 priority species, including Dartford Warbler, Nightjar, Brent Goose and Otter. This report considers the actual, or likely, presence of such species in the habitats identified at the site.

3.3.5 The Biodiversity Action Plans contain objectives and targets for each species and habitat identified. These should be considered for any development proposal affecting the site, both in terms of impact avoidance and opportunities to enhance the site and contribute to BAP targets.

3.4 Protected Species

3.4.1 Data provided by HBIC has shown that there are records of protected and notable species occurring within and in the vicinity of the site including bats, Badgers, Great Crested Newts, birds, reptiles, invertebrates and plant species.

3.4.2 Bats

3.4.2.1 HBIC provided 201 records of at least 13 species of bat within 2km of the site, including Brown Long-eared, Barbastelle, Serotine, Daubenton's, Bechstein's, Whiskered, Brandt's, Natterer's, Noctule, Common Pipistrelle, Soprano Pipistrelle and Nathusius's Pipistrelle. Also recorded were unidentified species of bat and unspecified *Myotis*, Long-eared and *Pipistrellus* bats. No records pertain to the site, however bats were recorded within the surrounding 500m, with species including Soprano Pipistrelle, unidentified Pipistrelle, Serotine, Noctule and unidentified *Myotis* species.

3.4.2.2 All UK bat species are European Protected Species protected under the Conservation of Habitats and Species Regulations 2010, which implements the EC Habitats Directive 92/43/EEC in the United Kingdom. In relation to European Protected Species (EPS), the 2010 Regulations make it an offence to:

- Deliberately capture, injure or kill any wild animal of an EPS.

- Deliberately disturb wild animals of any such species, in particular any disturbance which is likely to: (i) impair their ability to survive, to breed or reproduce, or to rear or nurture their young; or to hibernate or migrate; (ii) affect significantly the local distribution or abundance of the species to which they belong.
- Damage or destroy a breeding site or resting place of such an animal.
- To (a) be in possession of, or to control; (b) to transport any live or dead animal or any part of an animal; (c) to sell or exchange or (d) offer for sale or exchange any live or dead animal or part of an animal of an EPS.

3.4.2.3 In addition, all UK bats are protected under the Wildlife and Countryside Act 1981 (as amended). All species are listed on Schedule 5 of the Act and are subject to the provisions of Sections 9.4b and 9.4c, which make it an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection; and
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a bat.

3.4.2.4 Seven species of bat (Barbastelle, Bechstein's, Noctule, Soprano Pipistrelle, Brown Long-eared, Greater Horseshoe and Lesser Horseshoe) are included as priority species on the UKBAP and listed as Species of Principal Importance under Section 41 of the 2006 NERC Act.

3.4.3 **Badger**

3.4.3.1 One record of Badger was provided for the desk study area, dating from 2009.

3.4.3.2 Badgers and their setts are protected under the Protection of Badgers Act 1992. Unless permitted under a licence from Natural England this makes it an offence to:

- Kill, injure or capture a Badger,
- Damage, destroy or obstruct access to a Badger sett; and
- Disturb Badgers while they are occupying a sett.

3.4.4 **Birds**

3.4.4.1 All nesting birds are afforded a basic level of protection under the Wildlife and Countryside Act 1981 (as amended). Species included on Schedule 1 of the Act are afforded additional protection against disturbance when breeding. HBIC provided records of 61 bird species occurring within the desk study area. *Table 1* below details the notable bird species recorded within 2km of the site:

Table 1: Notable bird species recorded within desk study area

Common Name	Scientific Name	Annex 11	WCA 12	NERC 413	BOCC4 (2015) ⁴
Barn Owl	<i>Tyto alba</i>				
Black-headed Gull	<i>Chroicocephalus ridibundus</i>				
Black-tailed Godwit	<i>Limosa limosa</i>				
Brambling	<i>Fringilla montifringilla</i>				
Brent Goose	<i>Branta bernicla</i>				
Bullfinch	<i>Pyrrhula pyrrhula</i>				
Cetti's Warbler	<i>Cettia cetti</i>				
Crossbill (Common)	<i>Loxia curvirostra</i>				
Curlew (Eurasian)	<i>Numenius arquata</i>				
Dartford Warbler	<i>Sylvia undata</i>				
Dunlin	<i>Calidris alpina</i>				
Fieldfare	<i>Turdus pilaris</i>				
Firecrest	<i>Regulus ignicapilla</i>				
Great Black-backed Gull	<i>Larus marinus</i>				
Greenshank	<i>Tringa nebularia</i>				
Grey Partridge	<i>Perdix perdix</i>				
Grey Wagtail	<i>Motacilla cinerea</i>				
Hen Harrier	<i>Circus cyaneus</i>				
Herring Gull	<i>Larus argentatus</i>				
Hobby	<i>Falco subbuteo</i>				
Honey Buzzard	<i>Pernis apivorus</i>				
House Sparrow	<i>Passer domesticus</i>				
Kingfisher	<i>Alcedo atthis</i>				
Lapwing	<i>Vanellus vanellus</i>				
Lesser Black-backed Gull	<i>Larus fuscus</i>				
Lesser Redpoll	<i>Carduelis cabaret</i>				
Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>				
Linnet	<i>Carduelis cannabina</i>				
Little Egret	<i>Egretta garzetta</i>				
Little Ringed Plover	<i>Charadrius dubius</i>				
Marsh Tit	<i>Poecile palustris</i>				
Mediterranean Gull	<i>Larus melanocephalus</i>				
Mistle Thrush	<i>Turdus viscivorus</i>				
Nightingale	<i>Luscinia megarhynchos</i>				
Nightjar	<i>Caprimulgus europaeus</i>				
Osprey	<i>Pandion haliaetus</i>				
Oystercatcher	<i>Haematopus ostralegus</i>				
Peregrine Falcon	<i>Falco peregrinus</i>				
Pied Flycatcher	<i>Ficedula hypoleuca</i>				
Red Kite	<i>Milvus milvus</i>				
Redstart	<i>Phoenicurus phoenicurus</i>				
Redwing	<i>Turdus iliacus</i>				

Reed Bunting	<i>Emberiza schoeniclus</i>				
Ring Ouzel	<i>Turdus torquatus</i>				
Skylark	<i>Alauda arvensis</i>				
Snipe	<i>Gallinago gallinago</i>				
Song Thrush	<i>Turdus philomelos</i>				
Spotted Flycatcher	<i>Muscicapa striata</i>				
Starling	<i>Sturnus vulgaris</i>				
Turtle Dove	<i>Streptopelia turtur</i>				
Whimbrel	<i>Numenius phaeopus</i>				
Whinchat	<i>Saxicola rubetra</i>				
Wood Warbler	<i>Phylloscopus sibilatrix</i>				
Woodcock	<i>Scolopax rusticola</i>				
Yellow Wagtail	<i>Motacilla flava</i>				
Yellowhammer	<i>Emberiza citrinella</i>				

Notes:

- 1 Species listed in Annex I of Council Directive 79/409/EEC on the conservation of wild birds
- 2 Species specially protected under Schedule 1 of the Wildlife and Countryside Act 1981
- 3 Species included in the UK Biodiversity Action Plan and of Principal Importance under the NERC Act 2006
- 4 Species included in the Birds of Conservation Concern 4 Red and Amber lists (RSPB, 2015)

3.4.4.2 The majority of the bird records relate to nearby woodland and urban areas, as well as habitats falling within the statutory designated sites described above. No bird records pertain directly to the site. A full list of the bird records received for the search area is provided in *Appendix A*.

3.4.5 Reptiles

3.4.5.1 90 records of reptiles were provided for the desk study area, including records of Common Lizard, Slow-worm, Adder and Grass Snake. The closest reptile record related to a Slow Worm, dating from 2011, located approximately 640m to the north-west of the site, near to residential properties along the A3 road.

3.4.5.2 All native reptiles are protected against killing and injuring under the Wildlife and Countryside Act 1981 (as amended), are priority species on the UKBAP and are listed as Species of Principal Importance under Section 41 of the 2006 NERC Act.

3.4.6 Great Crested Newt

3.4.6.1 Seven Great Crested Newt records were provided for the desk study area. Details of the location and date were only provided for one record, which pertained to a pond at Hazleton Common in 1984, approximately 730m north-east of the site.

3.4.6.2 The Great Crested Newt is protected through its inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (see *Section 3.4.2.3*) and is a European Protected Species through the EC Habitats Directive 1992 as implemented by the Conservation of Habitats

and Species Regulations 2010 (see *Section 3.4.2.2*). It is also a priority species on the UKBAP and listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act.

3.4.7 **Invertebrates**

3.4.7.1 No records of protected invertebrates were provided for the desk study area other than Stag Beetle, which is included on the EC Habitats Directive 1992: Annex II and V(a) which allows the setting up of Special Areas of Conservation (SACs) where key populations exist. Stag Beetle is also protected against sale only through its inclusion on Schedule 5 of the 1981 Wildlife and Countryside Act (as amended).

3.4.7.2 301 records of notable invertebrate species were received for the desk study area, mostly originating from designated areas in the vicinity of the site with no records pertaining to the site itself. These include 56 species listed as Species of Principle Importance under Section 41 of the 2006 NERC Act, mostly comprising moth and butterfly species as well as Stag Beetle, Blue Carpenter Bee, and Little Black Wasp.

3.4.8 **Plants**

3.4.8.1 Records of 312 protected or notable plant species were provided for the desk study area, with no records relating to the site itself.

3.4.8.2 Records for the desk study area include:

- 1 species listed as 'Endangered'¹ on the IUCN Red List Categories and Criteria: Version 3.1 (IUCN, 2014), namely: Chaffweed.
- 2 species listed as 'Vulnerable'² on the IUCN Red List Categories and Criteria: Version 3.1 (IUCN, 2014), namely: Dyer's Greenweed and Lesser Spearwort.
- 22 species listed as 'Near Threatened'³ on the IUCN Red List Categories and Criteria: Version 3.1 (IUCN, 2014), namely: Heather, Hairy Rock-cress, Star Sedge, Crosswort, Bell Heather, Cross-leaved Heath, Marsh Pennywort, Marsh St John's-wort, Bitter-vetch, Ragged-Robin, Common Cow-wheat, Corn Mint, Wood-sorrel, Heath Milkwort, Tormetil, Sanicle, Marsh Ragwort, Goldenrod, Devil's-bit Scabious, Common Valerian and Heath Speedwell.
- 1 species included on the Hampshire BAP, namely: Summer Snowflake.

¹ Endangered (IUCN Red List, 2012): A taxon is Endangered when it is considered to be facing a very high risk of extinction in the wild in Great Britain.

² Vulnerable (IUCN Red List, 2012): A taxon is Vulnerable when it is considered to be facing a high risk of extinction in the wild in Great Britain.

³ Near Threatened (IUCN Red List, 2012): A taxon is Near Threatened when it does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future in Great Britain.

3.4.8.3 Although none of these records relate to the site itself, one of the records of Lesser Spearwort relates to Padnell Cuts Wood, located in the wider survey area to the north of the site. Lesser Spearwort is a wetland species that remains relatively common and widespread in the UK, being recorded in 2450 out of the 2823 10x10km squares in Britain (Preston *et al* 2002).

3.4.9 **Other notable species**

3.4.9.1 No records of other protected species, including Dormice or Otter, were provided for the desk study area.

3.4.9.2 Three records of Hedgehog were provided for the desk study area. Hedgehog is listed as a priority species on the UKBAP and listed as Species of Principal Importance under Section 41 of the 2006 NERC Act.

3.5 **Planning Policies**

3.5.1 Relevant policy relating to wildlife and nature conservation from the Adopted Local Plan, which comprises the Havant Borough 2011 Core Strategy and the 2014 Allocations Plan, includes:

“Policy CS11 Protecting and Enhancing the Special Environment and Heritage of Havant Borough

Planning permission will be granted for development that:

1. Ensures the key landscape and built form principles set out in the Havant Borough Townscape, Landscape and Seascape Character Assessment are protected and where possible enhanced by partnership working with developers, groups and the wider community.

2. Protects and where possible enhances the borough’s statutory and non-statutory designated landscape, habitats and features of biological, hydrological or geological interest. Protection and enhancement will be achieved by appropriate adaptation and mitigation measures including wardening, education and information and the creation of new habitats, water bodies/courses planting of new trees and woodland.

3. Has particular regard to the following hierarchy of nature conservation designations within the borough: i) Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar [International]. (ii) Sites of Special Scientific Interest (SSSI) and National Nature Reserves [National]. (iii) Sites of Importance for Nature Conservation (SINC), Local Nature Reserves (LNR), other Ancient Woodland not identified in (ii) above [Local].

4. Protects and where appropriate enhances the borough’s statutory and non-statutory heritage designations...

5. Supports an ongoing programme of survey of habitats and species and designation of Sites of Importance for Nature Conservation.

6. Incorporates partnership working with conservation organisations to improve public understanding of biodiversity and to manage public access to designated sites, particularly on the coast, to reduce harm to nature conservation interests.

7. Incorporates partnership working with landowners and developers to ensure land management practices restore, enhance and where appropriate create new valued landscapes, habitats and their soil structure, particularly the ancient woodland remnants of the Forest of Bere and coastal salt marsh.

8. Protects wildlife habitats and wildlife corridors to prevent the fragmentation of existing habitats and to allow species, for example Brent Geese, to respond to the impacts of climate change by making provision for habitat adaptation e.g. coastal managed realignment and species migration.

9. Maintains undeveloped gaps between the settlements of Emsworth/ Havant; Havant/ Waterlooville; Havant/ Portsmouth; Emsworth/ Westbourne and Leigh Park/ Rowlands Castle.

10. Protects the best and most versatile agricultural land that has the greatest potential for local food security.

11. Responds to the emerging evidence from the Solent Disturbance and Mitigation Project, the published recommendations, and future related research.”

“Policy DM24 Recreational Disturbance to Special Protected Areas (SPAs) from Residential Development

Planning permission will be granted for residential developments that avoid or mitigate a likely significant effect on the SPAs, caused by recreational disturbance through the in-combination effect of net additional dwellings. This mitigation can be provided through:

a) A financial contribution.

b) A developer provided package of measures associated with the proposed development designed to avoid or mitigate any significant effect on the SPAs subject to meeting the tests of the Habitats Regulations.

c) A combination of measures in (a) and (b) above.

Where these measures cannot be provided development proposals will be refused, unless the applicant can show, subject to meeting the tests of the Habitats Regulations, that there would not be an adverse effect on the integrity of the SPAs.

The provisions of this policy do not exclude the possibility that some residential schemes, due to their size/and or location, may require individual assessment under the Habitats Regulations on advice from Natural England and additional site specific avoidance or mitigation measures.”

4 PHASE 1 HABITAT SURVEY

4.1 General Description

4.1.1 The results of the Phase 1 habitat survey are presented in map form with target notes (represented by numbered dots) in *Appendix B*. A brief non-technical description of the site’s habitats and features is given below. Numbers in brackets refer to target notes.

4.1.2 The site comprises the grounds of Padnell Grange which constitutes a number of buildings in residential and commercial use together with associated hardstanding and formally landscape grounds dominated by amenity grassland with scattered trees. Ornamental shrub and flowerbeds also occur across the site and species-poor hedgerows, tree and fence lines are present around the site boundaries.

4.1.3 An area of mixed woodland, Padnell Cuts Wood, is located within the wider survey area to the north of the site on the other side of Padnell Road.

4.2 Amenity grassland

- 4.2.1 The majority of the site consists of intensively managed amenity grassland (8). Species recorded include Perennial Ryegrass, False Oat-grass, Yorkshire Fog, Fescue and Common Bent. Herb species present within the sward include Daisy, Self-Heal, Ribwort Plantain, White Clover, Creeping Buttercup, Dandelion, Creeping Thistle, Yarrow and Smooth Hawksbeard.

4.3 Species poor grassland

- 4.3.1 Two small fenced off areas of unmanaged species-poor semi-improved grassland are present within the site (15 and 17). Species present within the grassland include Yorkshire Fog, Tufted Hair-grass, Broadleaved Dock, Hedge Bindweed, Yarrow, Greater Birds-foot Trefoil and Ribwort Plantain. Other species recorded within these areas include Leyland Cypress, Cotoneaster and Ivy.

4.4 Woodland

- 4.4.1 No woodland habitat is present within the site.
- 4.4.2 An area of mixed woodland (1), Padnell Cuts Wood, dominates the wider survey area to the north of the site on the other side of Padnell Road. The woodland comprises semi-mature to mature trees including Hazel, Silver Birch, Yew, Beech, Wild Cherry, Norway Maple and Ash with an understorey of Holly, Laurel, Bramble, Hawthorn, Dogwood, Bracken, Bamboo, Gorse, Buddleia and *Lonicera nitida*. The ground flora present includes Ivy, Pendulous Sedge, Male Fern, Cleavers, Broadleaved Dock, Soft Rush, Common Nettle, Enchanter's Nightshade, Wood Avens, Remote Sedge and Lords and Ladies.
- 4.4.3 The westernmost part of the woodland includes areas of grassland, bare earth and Bramble. Species recorded within these areas include Daisy, Ribwort Plantain, Black Meddick, Creeping Buttercup, Yarrow, Common Bent, Perennial Ryegrass and Fescue.
- 4.4.4 The shrub layer and ground flora in the eastern part of the woodland is dominated by Bramble and the ground flora in the central part of the woodland is dominated by Bracken. There are multiple footpaths and bicycle dirt tracks through the woodland.

4.5 Hedgerows

- 4.5.1 A network of managed hedgerows form the northern and eastern site boundaries and intersect the site (4, 5, 6 and 10). Hedgerows 4, 5 and 10 are intact species-poor hedgerows dominated by Hawthorn, with hedgerows 5 and 10 featuring a greater diversity of woody species than hedgerow 4. Other species recorded include Yew,

Sycamore, Holly, Elder, Hazel, Oak, Blackthorn, Box and *Lonicera nitida*. The ground flora present along the hedges includes Common Nettle, Ivy, Bramble, Scarlet Pimpernel and Broadleaved Dock.

4.5.2 A short section of intact species-poor Leyland Cypress hedgerow is present in the south-eastern corner of the site (6).

4.5.3 In the north-eastern corner of the site is a short section of unmanaged defunct, species-poor hedgerow dominated by Hawthorn (3).

4.6 Scattered trees

4.6.1 A number of semi-mature to mature Oak trees are scattered across the site and along its boundaries (8). Scattered trees along the western and southern boundary include Norway Maple, Willow, Hawthorn, Whitebeam, Cherry Plum and Wild Cherry (24).

4.6.2 In the south-eastern corner of the site is an area of unmanaged Hawthorn trees with ornamental shrubs beneath (7) and scattered Elder, Hawthorn, *Prunus* sp, Cherry Plum, Crab Apple and Chinese Juniper trees (9). Other species recorded in this area include Hedge Bindweed, Common Nettle, Pendulous Sedge, Ivy and Bramble.

4.6.3 A line of Lawson's Cypress trees (11 and 13) are located along the northern and western site boundaries. Other species recorded in this area include Leyland Cypress, Hazel, *Prunus* sp., Ivy and Holly.

4.7 Ditches

4.7.1 One dry ditch was recorded within the site (14) measuring 1m in width and having a depth of approximately 1m. Species recorded within the ditch include Broadleaved Dock, Flag Iris, Tufted Hair-grass, Creeping Bent and Ragwort.

4.7.2 A further dry ditch (2) was recorded within the wider survey area to the north of the site. The ditch measured approximately 0.5m in width and 0.5m in depth. No vegetation was present within this ditch.

4.8 Tall ruderals

4.8.1 Small patches of tall ruderal vegetation are present across the site, generally within small areas of unmanaged land. In the northern part of the site along an embankment is an area of tall ruderal vegetation (12) dominated by Common Nettle. Other species recorded include Enchanter's Nightshade, Crocosmia, Tutsan and Broadleaved Dock.

- 4.8.2 Along the western boundary is an area of bare ground with the only ruderal species recorded being Broadleaved Willowherb (20). In the south-western corner of site (23) ruderal species recorded included Rosebay Willowherb, Common Nettle, Smooth Sow-thistle and Creeping Thistle.

4.9 Other habitats

- 4.9.1 There are several areas of ornamental shrubs present within small beds across the site (18, 19). Species recorded include Opium Poppy, Carnations, Hydrangea, Rose, Privet, Yucca, Hedge Bindweed, Leyland Cypress, Fuchsia, Berberis, Holly, *Aucuba Japonica* and Pendulous Sedge.
- 4.9.2 Two fenced off areas of limited extent consisting of patches of grass and bare ground are also present within the site (21 and 22). Species recorded in these areas include Ivy, Blackthorn, Holly, Garlic Mustard, Yorkshire Fog, Enchanter's Nightshade, Hedge Bindweed and Rosebay Willowherb.
- 4.9.3 A dried up pond full of leaf litter is present in the western part of the site (16).
- 4.9.4 A number of buildings and structures are present within the site including a residential dwelling, a commercial building and a series of outbuildings. Also areas of hardstanding (26) are present across the site in association with the buildings and access routes.

5 PROTECTED AND NOTABLE SPECIES

5.1 Bats

Roosting bats

- 5.1.1 All buildings and trees within and immediately adjacent to the site were inspected during the Phase 1 Bat Scoping Survey. In total ten buildings and twelve trees were found to have potential to support roosting bats. The full findings of the Phase 1 bat survey will be included within the Bat Survey Report to be prepared on completion of the ongoing bat survey work being carried out at the site (see *Section 7*).

Foraging and commuting habitat

- 5.1.2 The hedgerows and scattered mature trees along with associated grassland interfaces across the site provide opportunities for foraging and commuting bats. Similar and higher quality opportunities are however relatively widespread in the surrounding area, particularly to the east. The linear habitats within the site may also provide connective habitat for the movement of bats within the site and the wider area.

5.2 Hazel Dormouse

- 5.2.1 Although the extent of suitable Dormouse habitat, such as hedgerows, within the site is limited in extent, the site is well connected to areas of suitable habitat in the wider area such as the woodland within the wider survey area to the immediate north.

5.3 Otter and Water Vole

- 5.3.1 The only waterbodies present within the site are one dry ditch and a pond which are considered highly unsuitable for Otters or Water Voles. It is therefore considered highly unlikely that Water Vole or Otter are present at the site.

5.4 Badgers

- 5.4.1 No Badger setts, latrines or other evidence of Badgers such as foraging signs, footprints or hair were identified within the site or in accessible areas within 30m of the site boundary. Although the hedgerows and woodland areas present across the site and wider survey area provide suitable sett-building habitat for Badgers and the grassland habitats that dominate the site provide potential foraging habitat these are limited in extent, and similar habitat is abundant in the wider area. The site is therefore considered highly unlikely to be of importance to the local Badger population.

5.5 Birds

- 5.5.1 Trees, shrubs and hedgerow habitats within the site offer nesting opportunities for a number of bird species and it is likely that the site supports an assemblage of breeding birds typical of garden and woodland edge habitats. Similar and higher quality habitats are however widespread in the surrounding area and the site is unlikely to be of local importance for this group. The statutory protection afforded to all breeding birds should however be complied with during the development of the site and this is discussed further in *Section 8*.

5.6 Reptiles

- 5.6.1 Much of the site comprises regularly mown grassland, hardstanding and buildings which offer very limited opportunities for reptiles. However, where good ground cover occurs in association with patches of rough grassland, hedgerow bases, tall ruderal vegetation and ornamental shrubs these could provide suitable habitat for common and widespread reptile species such as Slow-worm and Grass Snake. In view of the above, it is conceivable that the site could support low numbers of common and widespread reptile species.

5.7 Great Crested Newts

5.7.1 There is no standing water within the site that could provide suitable Great Crested Newt breeding habitat and the extent of potential terrestrial habitat at the site, such as rough grassland, ornamental shrubs, hedgerows and scattered trees is limited. However, there are three ponds with potential to support Great Crested Newts located in the vicinity of the site within the adjacent golf course, the closest of which is located approximately 78m east of the site. Therefore in view of the close proximity of these waterbodies to the site it is considered possible for Great Crested Newts to be present on site during terrestrial phases.

5.8 Invertebrates

5.8.1 Habitats of limited interest for invertebrates are found within the site in the form of hedgerows, ornamental planting, scattered trees and tall ruderal vegetation. However, in view of the small size of the site and the abundance of habitat of similar and better quality within the wider area it is considered unlikely that the site supports a notable invertebrate assemblage in a local context.

5.9 Plants

5.9.1 The majority of the site comprises intensively managed habitats dominated by non-native and ornamental species, including buildings, hardstanding, amenity grassland, scattered trees and introduced shrubs, and is therefore unlikely to be of notable botanical interest. Although the woodland forming the wider survey area to the north of the site is of higher interest and a record of Lesser Spearwort was provided for this area during the desk study, the woodland would not be affected by the proposed development of the site.

5.9.2 *Crocodylia* was recorded during the Phase 1 habitat survey from an embankment in the northern part of the site (12). *Crocodylia* is listed as a non-native invasive species on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). It is an offence to release, plant or cause to grow in the wild any plant included on this schedule of the Act and as such it is recommended that a scheme of management is implemented to control this species at the site to prevent its spread.

5.9.3 A species of *Cotoneaster* was also identified from a fenced off area in the north of the site (17). Wall *Cotoneaster* *Cotoneaster horizontalis*, Entire-leaved *Cotoneaster* *Cotoneaster integrifolius*, Himalayan *Cotoneaster* *Cotoneaster simonsii*, Hollyberry *Cotoneaster* *Cotoneaster bullatus* and Small-leaved *Cotoneaster* *Cotoneaster microphyllus* are all included on Schedule 9 of the Wildlife and Countryside Act (1981) (as amended). *Cotoneasters* can be notoriously difficult to identify to a species level, often requiring observation throughout the growing season to study flower and fruit

morphology. It is therefore recommended that unless further survey proves the Cotoneaster present to not be a Schedule 9 species, then management works within the site include control of this Cotoneaster to prevent spread within or outside of the site as discussed above.

6 NATURE CONSERVATION EVALUATION

6.1 The habitats within the site have been assessed against the findings of the Phase 1 habitat survey with consideration given to the criteria summarised in *Appendix E* of this report (Ratcliffe, 1977; CIEEM, 2016). A summary of the site habitat evaluation is given in *Table 2* below.

Table 2: Site habitat evaluation

Value	Habitats Present
International	None
National	None
Regional	None
County	None
District	Waterlooville Golf Course SINC (off-site)
Local	High: None Moderate: Padnell Cuts Wood (off-site) Low: Network of species-poor hedgerows and scattered trees
Site/ Negligible	All other habitats recorded.

6.2 There are no habitats of International, National, Regional or County nature conservation value within or immediately adjacent to the site.

6.3 The habitats of highest nature conservation interest associated with the site are the off-site Waterlooville Golf Course SINC located to the immediate east which is considered to be of **district value**, and the off-site Padnell Cuts Wood located to the north of the site considered to be of **moderate local value**.

6.4 Within the site itself, the habitats of highest nature conservation interest are the species-poor hedgerows and scattered trees across the site which are considered in combination to be of no more than **low local value**. Although these features are only of limited interest in their own right, as they are not particularly diverse and features of similar quality are likely to be widespread in the surrounding area, these habitats combine to provide opportunities for a range of species and appreciably enhance the nature conservation interest of the site. Together these habitats also provide some contribution towards a wider habitat network, enabling the movement of wildlife around the site and wider landscape.

- 6.5 All of the other habitats recorded on site, including the species-poor semi-improved grassland, amenity grassland, ornamental planting, introduced shrubs, ruderal vegetation, hardstanding and buildings are common and widespread in the surrounding area and have therefore been assessed as being of negligible value in their own right in a local context. Where appropriate, consideration of the potential for protected or notable species to be present within these habitats is given below.

7 ADDITIONAL DATA REQUIREMENTS

- 7.1 In light of the findings of the ecological desk study, extended Phase 1 habitat survey and Phase 1 bat survey, additional survey work has been recommended in support of a planning application to identify species protected under the 1981 Wildlife and Countryside Act (as amended) and 2010 Conservation of Habitats and Species Regulations (as amended) that have been identified as possibly occurring within the site, and that could potentially be impacted by development proposals. These further surveys are currently underway and will be the subject of separate reports. The further survey work being undertaken is discussed below.

European Protected Species:

Bats: The Phase 1 bat scoping survey identified ten buildings and twelve trees as having low to high potential to support roosting bats. Phase 2 emergence/ re-entry surveys in accordance with current best practice guidelines (BCT, 2016) of buildings and trees with the potential to be affected by the proposed development are subsequently being carried out. These will establish the presence or absence of roosting bats within affected features and any mitigation and licensing requirements for the proposed development. Emergence/ re-entry surveys can be carried out between April and September, but should include visits to each feature at the peak of the bat breeding season (May - August inclusive).

Dormouse Survey: Although the extent of suitable Dormouse habitat, such as hedgerows, within the site is limited in extent, the site is well connected to areas of suitable habitat in the wider area such as the woodland within the wider survey area to the immediate north. A Dormouse nest tube survey is currently underway to determine the presence/ likely absence of this species within the site.

Great Crested Newts: Waterbodies suitable for Great Crested Newts are present in the vicinity of the site. An eDNA survey has subsequently been instructed to

determine the presence/ likely absence of Great Crested Newts in accessible ponds within the vicinity of the site. Great Crested Newt eDNA surveys can be undertaken between 16th April and 30th June.

UK Protected Species

Reptiles: Potentially suitable habitats for reptiles such as rough grassland, hedgerow bases, tall ruderal vegetation and ornamental shrubs are found throughout the site. A reptile survey is therefore being carried out to determine the status of reptiles and any need for avoidance and mitigation measures. The survey will involve the installation of artificial refugia at a density of 5-10 refugia/ha across the site which will be checked for reptiles in suitable conditions on 7 occasions between August and early October.

- 7.2 Although small numbers of breeding birds may occur at the site it is unlikely that locally significant populations would be affected by the proposed development and no further survey for this group is proposed. The nature conservation legislation afforded to all bird species would however still apply, and measures to ensure compliance are set out in *Section 8* below.

8 CONCLUSION AND RECOMMENDATIONS

- 8.1 This section provides a review of the possible implications of the proposed development on features of ecological interest and outlines recommended measures for the avoidance and mitigation of potential effects. In addition, opportunities are identified by which development of the site can enhance its current value for species of conservation concern in accordance with planning policy and the 2006 NERC Act.

8.2 Designated sites

- 8.2.1 The south eastern corner of the site falls within the 5.6km Impact Risk Zone (IRZ) for the Chichester and Langstone Harbour SPA (and associated SSSIs and SAC), as identified from the MAGIC online database. IRZs are used by Natural England to identify development activities in the vicinity of SSSIs, Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) which in the absence of avoidance and mitigation measures may adversely affect designated features, thereby requiring planning authorities to consult with Natural England where potentially damaging activities are proposed. The IRZ in which the southern part of the site falls includes '*Any residential developments with a total net gain in residential units*' as a development type with potential to adversely impact the abovementioned SPA, SSSI, SAC, and Ramsar Site.

- 8.2.2 Although the proposed development is extremely unlikely to impact the habitats for which the SAC, SSSI and Ramsar are designated, in view of the scale of the proposed development, its distance from the designated sites and the nature of the coastal/estuarine habitats, consideration should be given to the potential for additional recreational pressure arising from the proposed development to result in increased disturbance on the bird populations for which the Chichester and Langstone Harbour SPA, SSSI and Ramsar are designated. Although any such increase in recreational pressure is unlikely to result in risk of a significant effect in isolation, in view of the limited scale of the development in the context of that already present in the vicinity of the 5810ha SPA. The SPA is designated under EC Habitats Directive 1992 (Council Directive 92/43/EEC) transposed into UK law by the Conservation of Habitats and Species Regulations 2010 (as amended) which requires decision making authorities to consider the effects of development both alone and in combination with other plans and projects.
- 8.2.3 Even though additional recreational pressure arising from the proposed development would not be expected to result in risk of a significant effect on the SPA in isolation, in accordance with Havant Borough Council guidance (HBC, 2013)⁴ in order to avoid risk of cumulative effect on the SPA any net gain in residential development at the site will need to be accompanied by financial contribution towards the Solent Recreation Disturbance Project. This project implements a range of avoidance and mitigation measures to prevent adverse effects of new development on the bird populations for which the SPA is designated, including wardening and monitoring on the SPA and enhancement of open green space away from the designated area. Subject to contribution towards the Solent Recreation Disturbance Project no adverse effects would be expected to arise on the Chichester and Langstone Harbour SPA or associated SSSIs and Ramsar either alone or in combination with other plans or projects.
- 8.2.4 No nature conservation designations pertain to the site however Waterloo Golf Course SNCI is located adjacent to the eastern boundary of the site. The site is designated for its areas of ancient semi-natural woodland, unimproved neutral grassland and heathland vegetation. The nearest area of ancient woodland to the site is located approximately 450m to the south-east and although areas of rough grassland are located within the SINC adjacent to the site boundary no impact on the integrity of these habitats

⁴ "Havant Borough Council Developer Contributions Guide" <https://www.havant.gov.uk/planning-and-environment/planning-services/solent-recreation-mitigation-partnership-financial-contribution> and <https://www.havant.gov.uk/sites/default/files/documents/Havant%20Developer%20Contributions%20Guide%20Oct%202016.pdf>

would be expected to arise subject to implementation of standard measures to avoid spread of dust during construction and maintain the quality, quantity and constancy of water leaving the site along this boundary. Such measures could be detailed in a Construction Environmental Management Plan (CEMP) provided as a condition of consent.

- 8.2.5 No other statutory or non-statutory sites would be expected to be adversely affected by the proposed development in the absence of mitigation or avoidance measures, either alone or in combination with other plans or projects. This is due to a combination of the nature and scale of the proposed development, the distance between the site and the designated area, the limited ecological connectivity with the site and/ or robustness of the habitats present.

8.3 Habitats

- 8.3.1 Current knowledge suggests that there are no areas of International, National, Regional, County or District nature conservation value within the site. The site is dominated by habitats of negligible value in their own right, including amenity grassland, species-poor semi-improved grassland, ornamental planting, introduced shrubs, ruderal vegetation, hardstanding and buildings.
- 8.3.2 The habitats considered to be of highest value within the site are the species-poor hedgerows and scattered trees which are considered to be of **low local value** as they provide habitat for a range of wildlife and appreciably enhance the ecological interest of the site in addition to forming part of the network of habitats around the site and the wider area. Where possible, development proposals should seek to retain these features or otherwise provide appropriate replacement habitat elsewhere within the site in order to maintain opportunities for wildlife.
- 8.3.3 Development proposals should also seek to enhance the habitat resource of the site to provide new opportunities for wildlife in accordance with national and local planning policy and guidance (NPPF, 2012; ODPM, 2005) and the 2006 NERC Act. Opportunities arising from development of the site for the enhancement of retained habitats and creation of new habitats are identified in *Section 8.5*. Development proposals should also seek to maintain the integrity of habitats within and adjacent to the site through sensitive use of lighting (see *Section 8.4.2* below).

8.4 Protected species

Bats

- 8.4.1 It has been recommended that further surveys are carried out at the site to determine its importance for roosting, foraging and commuting bats (see *Section 7*). These are underway and will be the subject of a separate report.
- 8.4.2 Where possible, wooded habitats, hedgerows, scrub and trees should be retained within the development scheme or otherwise replaced at appropriate locations within the development area or wider site. It is also recommended that the lighting scheme for the site be designed to minimise light spill onto any new and retained semi-natural areas to maximise the value of existing and newly created foraging and commuting habitats and maintain opportunities for bats and other nocturnal wildlife during the operational phases of the development. Consideration should be given to the use of directional, hooded and low-level lighting where appropriate, together with use of narrow spectrum and/or low UV bulbs, whilst maintaining a minimum level required for safety.
- 8.4.3 Additional measures to maintain and potentially enhance foraging, commuting and roosting opportunities for bats within the site in line with planning policy and the 2006 NERC Act are given in *Section 8.5* below.

Badgers

- 8.4.4 Although no evidence of Badgers was recorded during the Badger survey, habitats at the site provide potential sett-building and foraging habitat for this species. Badgers are very mobile animals and occasionally setts may be abandoned and new setts created elsewhere. It is therefore recommended that the site is re-surveyed prior to commencement of development works to ensure that the status of Badgers has not changed.
- 8.4.5 Although the habitat present within the site is unlikely to be of local importance for foraging Badgers due to its small size and the availability of other suitable habitat in the wider area, it is recommended that construction activities take into account the possible presence of this species for occasional foraging. Any steep sided holes left open overnight during the course of construction works should therefore be equipped with a mammal ladder (a reinforced plywood board >60cm wide set at an angle of no greater than 30° to the base of the pit) to prevent entrapment.

Birds

- 8.4.6 It is considered unlikely that the site supports a locally important assemblage of breeding birds. Therefore no further survey for this group is recommended. Notwithstanding this,

any removal of trees and scrub vegetation and demolition of buildings should avoid the bird breeding season (generally taken as March to September inclusive), as wild birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981 (as amended). In the event that site clearance is required during this period then a search for nesting birds should be undertaken by a suitably qualified ecologist immediately prior to works. In the event that breeding birds are discovered, sufficient habitat will need to be retained to ensure birds are not disturbed until nesting activity has been completed and the nest vacated.

Reptiles

- 8.4.7 Although the site is likely to be of limited value for reptiles in a local context, a survey is being carried out to identify the need for any mitigation requirement with regard to this group and opportunities for habitat enhancement works within areas of informal open space. The findings of the survey will be the subject of a separate report to be prepared on completion of the survey together with recommendations to safeguard and enhance any reptile populations that might be present.

Great Crested Newts

- 8.4.8 A Great Crested Newt eDNA survey has been carried out to determine the presence/likely absence of this species in the ponds at the golf course to the east of the site, the findings of which will be subject of a separate report. In any event, it is recommended that opportunities for this species and other amphibians are included within any development scheme for the site. This could include enhancement of the existing dried up pond and/ or creation of new waterbodies in associated with the surface water drainage scheme of the proposed development or as standalone features.

Invasive plants

- 8.4.9 *Crococsmia* was recorded during the Phase 1 habitat survey from an embankment in the northern part of the site. *Crococsmia* is listed as a non-native invasive species on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). It is an offence to release, plant or cause to grow in the wild any plant included on this schedule of the Act and as such it is recommended that a scheme of management is implemented to control this species at the site to prevent its spread.
- 8.4.10 A species of *Cotoneaster* was also identified from a fenced off area in the north of the site. Wall *Cotoneaster* *Cotoneaster horizontalis*, Entire-leaved *Cotoneaster* *Cotoneaster integrifolius*, Himalayan *Cotoneaster* *Cotoneaster simonsii*, Hollyberry *Cotoneaster* *Cotoneaster bullatus* and Small-leaved *Cotoneaster* *Cotoneaster microphyllus* are all included on Schedule 9 of the Wildlife and Countryside Act (1981) (as amended).

Cotoneasters can be notoriously difficult to identify to a species level, often requiring observation throughout the growing season to study flower and fruit morphology. It is therefore recommended that unless further survey proves the Cotoneaster present to not be a Schedule 9 species, then management works within the site include control of this Cotoneaster to prevent spread within or outside of the site as discussed above.

- 8.4.11 Other non-native species recorded at the site including Cherry Laurel and bamboo species, although not listed on Schedule 9, can rapidly colonise and proliferate in areas of semi-natural habitat and have a tendency to outcompete native species. Measures to control these species at the site are also recommended.

8.5 Opportunities for enhancement

- 8.5.1 Where appropriate, development proposals should seek to provide new opportunities for wildlife in accordance with national and local planning policy and guidance (NPPF, 2012; ODPM, 2005) and the 2006 NERC Act. A selection of measures is given below which could potentially increase the nature conservation interest of the site if included in the scheme:

- Strengthen linear habitat corridors around the site through use of native species-rich hedgerow, scrub and tree planting as boundary features;
- Inclusion of habitats of high nature conservation interest within areas of public open space such as meadow grassland, native species-rich scrub and tree planting;
- Incorporation of nectar- and pollen-rich species and fruit- and nut- producing trees and shrubs within the new landscape planting;
- Prioritise use of native species typical of the local area in landscape planting where appropriate to do so and avoid invasive species and cultivars. Where possible these should be sourced from stock of local provenance;
- Removal of invasive *Crocsmia* and Cotoneaster species and other non-native species such as Cherry Laurel, which are of very low value to wildlife and prevent growth of native shrubs and ground flora. This would in turn provide opportunities for wildlife friendly planting in its place where appropriate;
- Provision of bat roosting opportunities and bird boxes on new buildings and retained trees;
- Provision of log and brash piles around the edges of landscape planting to provide habitat for invertebrates, amphibians and reptiles;
- Creation of new wildlife-friendly waterbodies in associated with the surface water drainage scheme of the proposed development or as standalone features;

- Provision of gaps in new development boundary fencing to allow movement of wildlife such as Hedgehogs.

8.6 Conclusion

8.6.1 The site is dominated by habitats of limited nature conservation interest in their own right and subject to implementation of the recommended measures to avoid potential cumulative impacts arising as a result of increased recreational pressure on the Chichester and Langstone Harbour SPA and maintain opportunities for wildlife associated with the site and adjacent land, the proposed development is unlikely to result in any significant adverse effect on the ecology of the local area. Subject to implementation of the measures described in *Section 8.5* above, development proposals for the site could in fact deliver benefits for a number of species. This would be in keeping with planning policy and guidance and Section 40 of the 2006 NERC Act.

8.6.2 It is therefore concluded that, beyond the normal requirements to avoid impacts on protected species and off-site designated areas, there appear to be no overriding nature conservation constraints that would preclude development at the site.

9 REFERENCES

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2			
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	Personnel	Position
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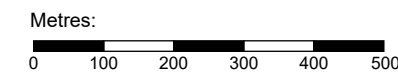
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APPENDIX A
Desk Study Results

APPENDIX B

Phase 1 Habitat Survey Results: Map and Target Notes



KEY

- Site boundary
- Wider survey area
- Mixed semi-natural woodland
- Scattered trees
- Intact species-poor hedgerow
- Defunct species-poor hedgerow
- SI Species-poor semi-improved grassland
- Amenity grassland
- Tall ruderals
- Introduced shrubs
- Scattered introduced shrubs
- Dry ditch
- Pond
- Hardstanding
- Bare ground
- Fence
- Brick wall
- Building
- Decking
- Target note

CLIENT:
Bellway Homes
PROJECT:
Padnell Grange Eco
TITLE:
Phase 1 Habitat Survey Plan
SCALE AT A3:
NTS - See bar scale

DATE:
August 2017

2080.6 / 03

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Target Notes

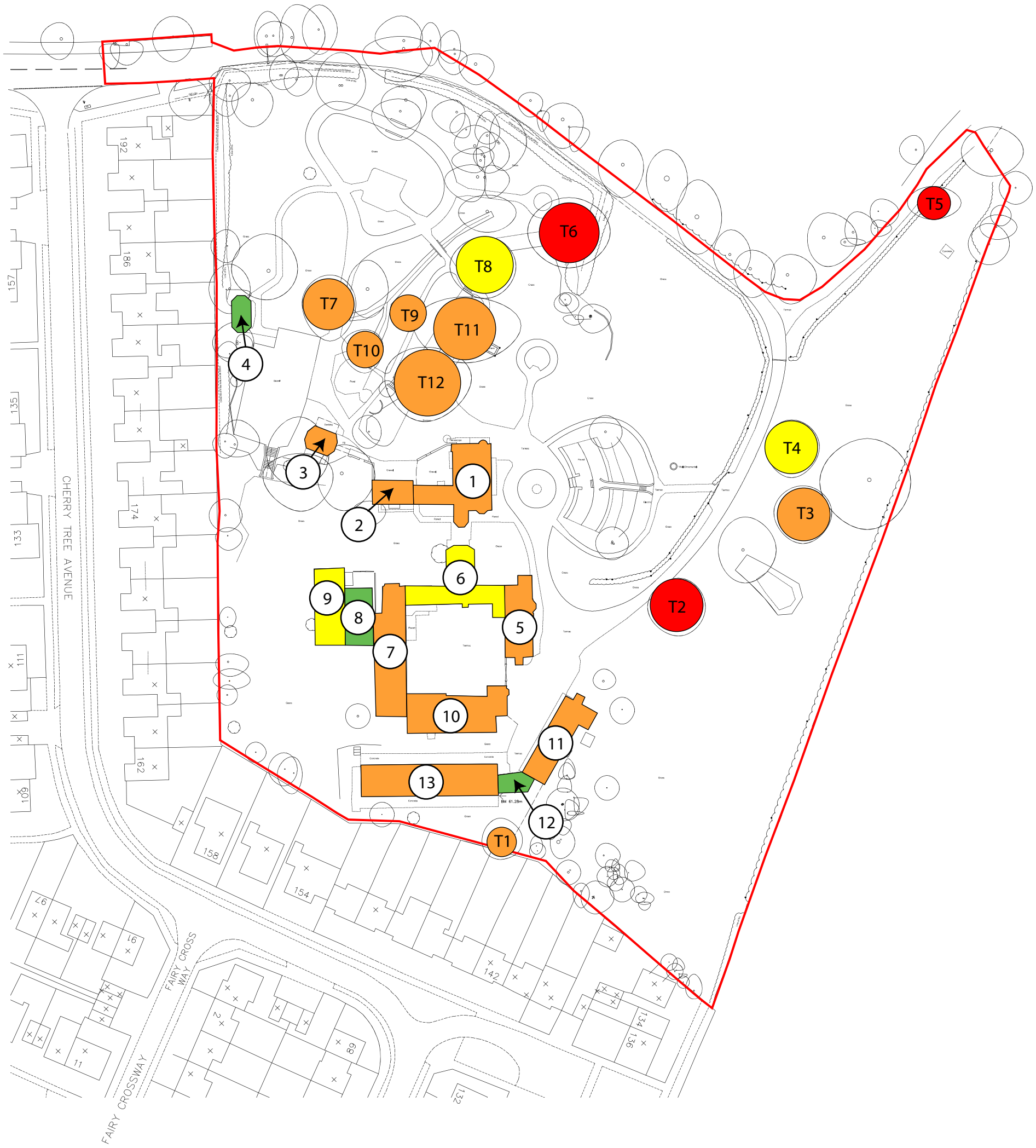
1. Off-site mixed Woodland up to 12m in height including semi-mature to mature specimens. Tree species recorded include Hazel (*Corylus avellana*), Silver Birch (*Betula pendula*), Yew (*Taxus baccata*), Beech (*Fagus sylvatica*), Wild Cherry (*Prunus avium*), Norway Maple (*Acer platanoides*) and Ash (*Fraxinus excelsior*). Understorey plants recorded include Holly (*Ilex aquifolium*), Laurel (*Prunus* spp.), Bramble (*Rubus fruticosus*), Hawthorn (*Crataegus monogyna*), Dogwood (*Cornus sanguinea*), Bracken (*Pteridium aquilinum*), Bamboo, Gorse (*Ulex europaeus*), Buddleia (*Buddleja davidii*) and *Lonicera Nitida*. Ground flora species recorded include Ivy (*Hedera helix*), Pendulous Sedge (*Carex pendula*), Male Fern (*Dryopteris filix-mas*), Cleavers (*Galium aparine*), Broadleaved Dock (*Rumex obtusifolius*), Soft Rush (*Juncus effusus*), Common Nettle (*Urtica dioica*), Enchanter's Nightshade (*Circaea lutetiana*), Wood Avens (*Geum urbanum*), Remote Sedge (*Carex remota*) and Lords and Ladies (*Arum maculatum*). The westernmost part of the woodland features patches of grassland, bare earth and Bramble. Species recorded include Daisy (*Bellis perennis*), Ribwort Plantain (*Plantago lanceolata*), Black Medick (*Medicago lupulina*), Creeping Buttercup (*Ranunculus repens*), Yarrow (*Achillea millefolium*), Common Bent (*Agrostis capillaris*), Perennial Ryegrass (*Lolium perenne*) and Fescue (*Festuca* spp.). The ground flora and shrub layer in the eastern part of the woodland is dominated by Bramble. The central part of the woodland is dominated by Bracken. There are multiple footpaths and bicycle dirt tracks through the woodland.
2. Dry ditch measuring 0.5m width by 0.5m depth. No vegetation was present and the base of the ditch contained leaf litter.
3. Defunct species-poor Hawthorn hedgerow up to 5m in height. The ground flora beneath the hedge includes Common Nettle, Broadleaved Dock, Ivy and Creeping Buttercup. A single Holly bush was also recorded within the hedgerow. The hedgerow had not been recently managed at the time of survey.
4. Intact species-poor Hawthorn hedgerow up to 1.5m in height. Yew was also recorded within the hedgerow. The ground flora includes Common Nettle, Ivy, Bramble and Scarlet Pimpernel (*Anagallis arvensis*).
5. Intact species-poor hedgerow dominated by Hawthorn. Other woody species recorded include Sycamore (*Acer pseudoplatanus*), Holly and Elder (*Sambucus nigra*). Other species recorded include Ivy, Bramble, Common Nettle, Broadleaved Dock and Barren Brome (*Bromus sterilis*).
6. Intact species-poor Leyland Cypress (*Cupressus × leylandii*) hedgerow located beyond the boundary fence up to 8m in height.
7. Unmanaged Hawthorn trees, 4-6m in height, with ornamental shrubs beneath. Other species recorded include Hedge Bindweed (*Calystegia sepium*) and Common Nettle.
8. Amenity grassland lawn dominating the grounds of Padnell Grange. Grass species recorded include Perennial Ryegrass, False Oat-grass (*Arrhenatherum elatius*), Yorkshire Fog (*Holcus lanatus*), Fescue and Common Bent. Other species recorded include Daisy, Selfheal (*Prunella vulgaris*), Ribwort Plantain, White Clover (*Trifolium repens*), Creeping Buttercup, Dandelion (*Taraxacum officinale*), Creeping Thistle (*Cirsium arvense*), Yarrow and Smooth Hawksbeard (*Crepis capillaris*). There are scattered semi-mature to mature Oak trees across the grassland. The grassland is frequently mown and has a short sward.

9. Scattered young trees including Elder, Hawthorn, *Prunus* sp, Cherry Plum, Crab Apple (*Malus sylvestris*) and Chinese Juniper. Other species recorded included Pendulous Sedge, Common Nettle, Ivy and Bramble.
10. Intact species-poor hedgerow up to 1.5m in height. The hedgerow is dominated by Hawthorn. Other species recorded include Hazel, Oak (*Quercus* spp.), Holly, Blackthorn (*Prunus spinosa*), Box (*Buxus* spp.), *Lonicera nitida*, Bramble, Common Nettle and Ivy.
11. Line of Lawson's Cypress (*Chamaecyparis lawsoniana*) trees up to 10m in height.
12. Tall ruderal vegetation dominated by Common Nettle. Other species recorded include Enchanter's Nightshade, Crocosmia (*Crocasmias* spp.), Tutsan (*Hypericum androsaemum*) and Broadleaved Dock.
13. Line of Lawson's Cypress trees up to 10m in height. Other species recorded include Leylandii Cypress, Hazel, *Prunus* sp., Ivy and Holly.
14. Dry ditch measuring 1m in width with a depth of approximately 1m. Species recorded within the ditch include Broadleaved Dock, Flag Iris, Tufted Hair-grass (*Deschampsia cespitosa*), Creeping Bent and Ragwort (*Senecio jacobaea*).
15. Fenced off area of unmanaged species-poor semi-improved grassland consisting of Yorkshire Fog with Tufted Hair Grass together with Broadleaved Dock, Hedge Bindweed, Yarrow, Greater Birds-foot Trefoil (*Lotus pedunculatus*) and Ribwort Plantain.
16. Dried up pond full of leaf litter.
17. Fenced off area of unmanaged species-poor semi-improved grassland with species similar to Target Note (15). Other species recorded include Ivy, Leyland Cypress and Cotoneaster.
18. Paved area surrounded by ornamental species. Other species recorded include Pendulous Sedge, Hedge Bindweed, Bramble and Dock.
19. Ornamental shrub and flowerbeds with species recorded including Opium Poppy (*Papaver Somniferum*), Carnations (*Dianthus caryophyllus*), *Hydrangea* sp., Rose, Privet, Yucca, Hedge Bindweed, Leylandii Cypress, Fuchsia (*Fuchsia* spp.), *Berberis* sp., Holly and *Aucuba Japonica*.
20. Area of bare ground supporting ruderal species such as Broadleaved Willowherb (*Epilobium montanum*).
21. Fenced off area consisting of patches of grass and bare ground. Species recorded include Ivy, Blackthorn and Holly.
22. Fenced off area comprising bare soil and dead grass. Other species recorded include Garlic Mustard (*Alliaria petiolata*), Yorkshire Fog, Enchanter's Nightshade, Hedge Bindweed and Rosebay Willowherb (*Chamerion angustifolium*).

23. Tall ruderal vegetation in south west corner of site. Species recorded include Rosebay Willowherb, Common Nettle, Smooth Sow-thistle (*Sonchus oleraceus*) and Creeping Thistle.
24. Scattered trees along the western and southern boundaries including Norway Maple (*Acer platanoides*), Willow (*Salix* spp.), Hawthorn, Whitebeam (*Sorbus aria*), Cherry Plum (*Prunus cerasifera*) and Wild Cherry.
25. Area of mosses.
26. Hardstanding.
27. Adjacent residential development.
28. Waterlooville Golf course SNCI to the east of the site. The SNCI is designated for its areas of ancient semi-natural woodland, unimproved neutral grassland and heathland vegetation.

APPENDIX C

Phase 1 Bat Scoping Survey Plan



KEY

- Site boundary
- High bat roosting potential*
- Moderate bat roosting potential*
- Low bat roosting potential*
- Negligible bat roosting potential*

*Categories relate to levels of roost potential in accordance with the BCT 2016 guidelines.

CLIENT:
Bellway Homes
PROJECT:
Padnell Grange Eco
TITLE:
Phase 1 Bat Scoping Plan
SCALE AT A3:
1:1,000
DATE:
July 2017

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APPENDIX D

Phase 1 Bat Scoping Survey Photographs



Photo 1. Eastern elevation of Building 1



Photo 2. Northern elevation of Buildings 1 and 2



Photo 3. North-eastern elevation of Building 3



Photo 4. Eastern elevation of Building 4



Photo 5. Eastern elevation of Building 5



Photo 6. Northern and eastern elevations of Building 6



Photo 7. Eastern elevation of Building 7



Photo 8. Southern elevations of Buildings 8 and 9



Photo 9. Northern elevation of Building 10



Photo 10. North-western elevation of Building 11



Photo 11. Northern elevation of Building 12



Photo 12. Eastern and northern elevations of Building 13

APPENDIX E
Evaluation Criteria

Criteria used for the evaluation of ecological receptors (based on Ratcliffe, 1977; CIEEM 2016)

Assigning value is relatively straightforward in the case of designated sites, and undesignated sites meeting designation criteria. However, in most cases evaluation of ecological resources is not straightforward and requires a degree of knowledge, experience and professional judgement (Usher, 1986; Spellerberg, 1992). Evaluation of an ecological receptor was based on a number of criteria (Ratcliffe, 1977; CIEEM 2016) summarised below:

- Site designations; SPA, SAC, Ramsar, SSSI, NNR, LNR, SINC or equivalent.
- Site designation criteria; e.g. Guidelines for the Selection of Biological SSSIs, JNCC, 1989.
- Conservation status; whether a habitat or species is rare, declining or threatened at a given geographic scale.
- Geographic location; the value of a habitat or species may change depending on whether it is being assessed in the south of England or the north of Scotland.
- Distribution; habitats or species on the edge of their distribution, particularly where that distribution is changing as a result of global trends and climate change and endemic species or locally distinct sub-populations of a species are more valuable;
- Rarity; the presence of habitats, species, subspecies or varieties that are rare or uncommon at a given geographic scale.
- Diversity; of habitats, or species, particularly of vascular plants. Species-rich assemblages of plants or animals are likely to be important in terms of biodiversity;
- Naturalness; habitats least affected by human disturbance are normally of relatively higher importance.
- Size; larger areas are generally more valuable than lots of small ones. Notably large populations of animals or concentrations of animals considered uncommon or threatened in a wider context may be important.
- Fragility; sensitivity to, and probability of, human impact.
- Typicalness; a good example of the type, particularly plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities.
- Potential value (if restored to favourable conservation status).
- Secondary or supporting value; value of a receptor in supporting the integrity or conservation status of another valued receptor.
- Ability to be recreated; the more difficult a habitat is to re-create, were it to be destroyed, the greater the importance usually attached to it.